

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/077523 A1

(51) International Patent Classification⁷: **B01J 19/08**,
A61L 2/03

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(21) International Application Number:
PCT/CA2005/000167

(22) International Filing Date: 10 February 2005 (10.02.2005)

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:
2,457,456 11 February 2004 (11.02.2004) CA

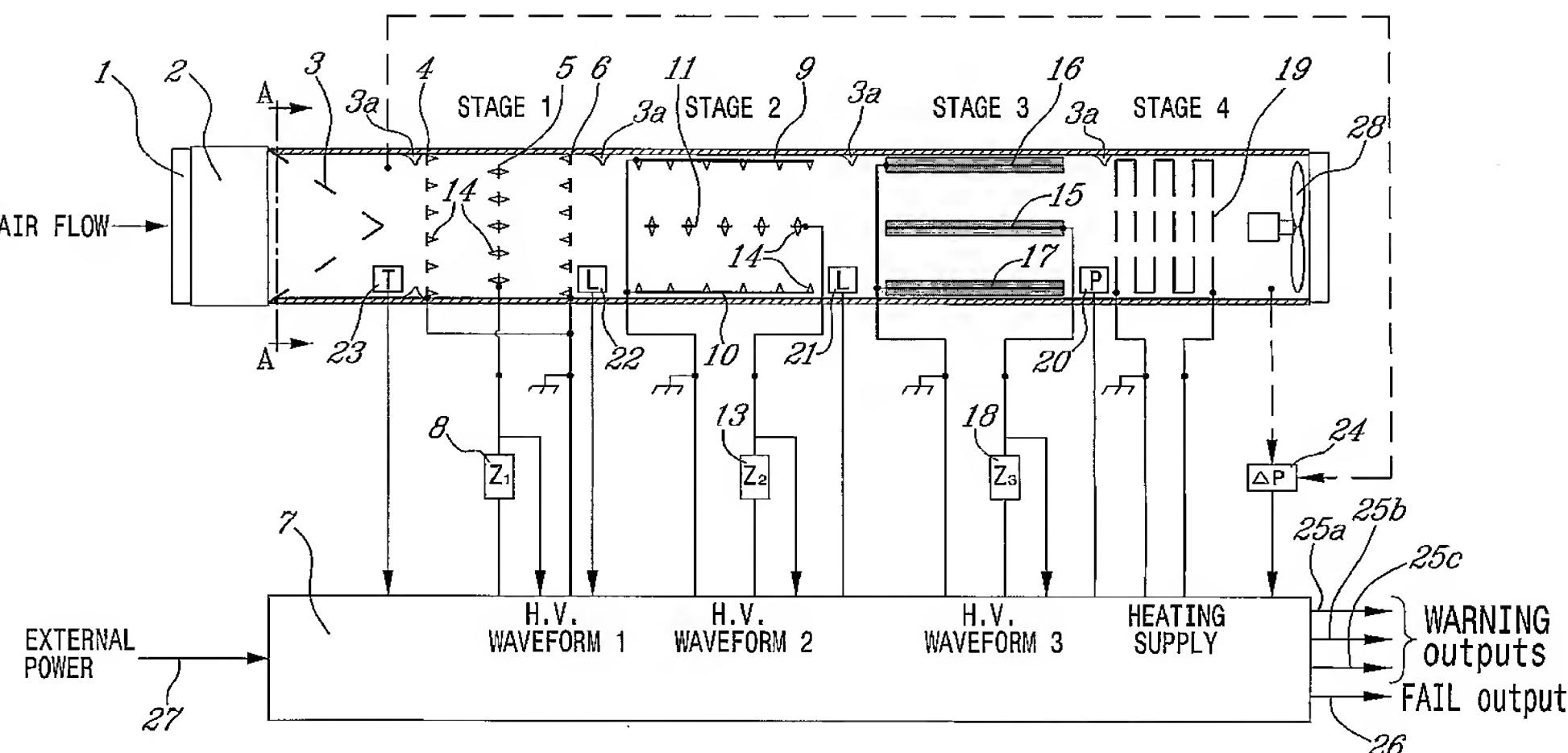
Published:

— with international search report

(71) Applicant and
(72) Inventor: LEPAGE, Jean-Pierre [CA/CA]; 3425 Anatole Carignan, Lachine, Québec H8T 3M9 (CA).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM FOR TREATING CONTAMINATED GAS



(57) **Abstract:** A system for decontaminating a gas is provided. The system comprises : a passageway containing at least one set of two or three electrodes. If the set contains three electrodes, it has two outer electrodes electrically connected together and one inner electrode. A high voltage waveform source for creating electrical fields between the electrodes, wherein the electrical fields interact with the gas to create an electronic current having a desired average energy level to at least match the energy level of the molecular bonds of the contaminants to be ruptured and wherein the set has either (a) at least one surface of the inner electrode and a corresponding exposed surface of the outer electrodes (in the case of a set with two electrodes, both exposed surfaces) are fitted with protuberances having a controlled geometry controlling an amplification factor of the electric field at extremities of the protuberances; or (b) a space between at least one outer electrode and the inner electrode (in the case of a set with two electrodes, a space between the electrodes) is at least partially filled with elements made from a dielectric material.

WO 2005/077523 A1